

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

SURFACE ROUGHENING

(acre)
CODE 609

DEFINITION

Roughening the soil surface by ridge or clodforming tillage.

PURPOSE

- To reduce wind erosion on cultivated land, especially during periods of high probability for erosive winds.
- To reduce sheet and rill erosion on sloping cropland.

CONDITIONS WHERE PRACTICE APPLIES

Wind Erosion

Surface roughening with ridges may be used on any soil with a wind erosion hazard.

Surface roughening with clods will be limited to soils with a WEQ-"I" factor of 86 or less.

Water Erosion

On any sloping cropland subject to sheet and rill erosion.

CRITERIA

Criteria for Wind Erosion

This practice will be initially applied before the critical erosion period begins, (February 1), and maintained until the end of the critical erosion period, (May 1).

Soils with surface roughening that are tilled for seedbed preparation during the critical wind erosion period and will be planted or SURFACE ROUGHENING reapplied within 14 days after the first seedbed preparation operation.

Fields should be bedded, ridged, or left cloddy during the critical wind erosion period. Tillage should be performed as near to perpendicular to the prevailing erosive wind direction as practical.

RIDGING:

Soils not planted during the critical wind erosion period, will be protected by maintaining a ridged soil surface condition having a WEQ-"K" factor of .6 or less.

Soils that are planted during the critical wind erosion period will be protected by maintaining a ridged soil surface condition, having a WEQ-"K" factor of .7 or less.

CLODS:

Tillage will be applied when soil moisture content is sufficient to form durable clods on the surface.

Prior to planting, an minimum average of 1 two-inch diameter clod per square foot is required.

Soils that are planted during the critical wind erosion period, will be protected by maintaining a minimum average of 5 one-

inch diameter clods per square foot on the soil surface.

Criteria for Sheet and Rill Erosion

Surface roughening practices associated with tillage and / or planting resulting in ridges, soil depressions, or reservoirs to trap and hold snow melt or precipitation.—Reservoirs shall be at least 6 inches deep, 18 inches long, and 12 inches wide and be spaced on a grid less than 34 inches square.

Practice application shall be conducted on the contour or cross slope a determined using the Contour Farming Practice Standard 330.

CONSIDERATIONS

Practice application will occur before the critical erosion period subject to sheet and rill erosion.

Surface roughening is most effective if initially applied in the fall when field conditions are favorable.

Application of Surface Roughening should be considered following low residue crops prior to the critical erosion period.

Surface Roughening may need to be used in combination with other conservation practices to meet the goals of the conservation management system.

Surface Roughening will have a positive effect on the water budget, especially on volumes and rates of runoff and infiltration.

Surface Roughening will have a positive effect on reducing the movement of soil and soil-attached pollutants by wind or water.

PLANS AND SPECIFICATIONS

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Site-specific specifications are developed by the planner for each land unit being planned. Site-specific specifications are developed using current prediction and/or models and/or tool, i.e.: RUSLE, WEQ, Surface Irrigation Soil Loss Model (SISL), Soil Condition Index Rating, etc.

Specify methods, time of tillage, and suitability of soils.

OPERATION AND MAINTENANCE

Annual maintenance of this practice may be required by certain program or contractual agreements.

SITE SPECIFIC SPECIFICATIONS INCLUDED ARE:

Section 1, Erosion Prediction, Idaho Field Office Technical Guide.